

**STRUCTURAL PERFORMANCE OF CORNER JOINT USING ANGLE IRON IN
PROFILE STEEL SHEET DRY BOARD (PSSDB) WALL PANEL**

By

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DECLARATION OF THE CANDIDATE

I Mohd Zaffry b Zainal Kamrin, 2003321840 confirm that the work is my own and that appropriate credit has been given where references have been made to the work of others.



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ABSTRACT

The rapid growth of the building industry in Malaysia had led to the ever-increasing trend of shift of paradigm from the traditional utilization of materials to newer ones, resulting in constant introduction of newer construction techniques and materials to the building industry. Profile steel sheet dry board (PSSDB) system is one of the innovative composite constructions. This report describes an experimental investigation on the structural performance of corner joint in PSSDB wall panel. This was a continuation on the studies that have been carried out before using local materials, to get more information on the behavior of the composite materials used. Three samples were prepared, two samples of 1000mm x 300mm x 78mm profile steel sheet dry board which were connected with angle iron and one sample of angle iron of 40mm x 40mm x 700 mm height. These samples were tested with load application subject to compressive load. Ultimate load, buckling of wall, critical load displacement and the suitability of using angle iron joint were studied. The parameters measured were ultimate load capacity and displacement. Previous studies had shown that the PSSDB had potential to be implemented in building construction. The introduction of angle iron at the corner joint enhances use of PSSDB in the construction industry.

The ultimate load capacities of the sample were found to be 170.45 kN and 99.82 kN and maximum lateral displacement of 9.33 mm and 2.5 mm for PSSDB wall sample. It was found that the connection angle iron with PSSDB wall sample give higher ultimate load capacity which suitable composite structure for construction.

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